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(71)出願人 000000918

花王株式会社

東京都中央区日本橋茅場町1丁目14番10号

(72)発明者 阿部 啓二

栃木県真岡市田町1606-17

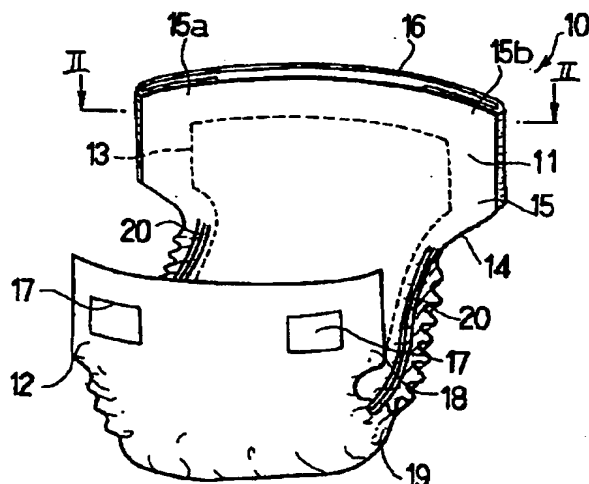
(74)代理人 弁理士 羽鳥 修

(54)【発明の名称】 使い捨ておむつ

(57)【要約】

【目的】 装着しやすく、また、使用中での装着安定性も良好でフィット性が確保でき、排便時の処理も簡単に安価な吸収性物品の提供。

【構成】 本実施例の使い捨ておむつ10は、液透過性の表面シート11と液不透過性の防漏シート12とその間に介在された吸収体13を配置したおむつ本体14を備えている。おむつ本体14の長手方向の背側部(一端部)15には、上記防漏シート12側に着用者のウエスト周囲を覆うべき弾性帯体16が輪状に設けられており、該弾性帯体16は、上記背側部15の両側部(フラップ)で上記防漏シート12に固定されて、上記弾性帯体16の全体が上記防漏シート側に配置され、使用時には上記表面シート11側に反転されるようになされており、上記おむつ本体の腹側部(他端部)又は上記弾性帯体16の少なくとも一方に、上記おむつ本体14の腹側部と上記弾性帯体16を止着する止着部材17が設けられている。



## 【特許請求の範囲】

【請求項1】 液透過性の表面シートと、液不透過性の防漏シートと、これらのシート間に配置された吸収体とからなるおむつ本体を備えた使い捨ておむつにおいて、上記おむつ本体の長手方向の一端部には、上記防漏シート側に着用者のウエスト周囲を覆うべき弾性帯体が輪状に設けられており、

該弾性帯体は、上記長手方向の一端部の両側部で上記防漏シートに固定され、上記弾性帯体の全体が上記防漏シート側に配置されており且つ使用時には上記表面シート側に反転されるようになされており、  
上記おむつ本体の他端部又は上記弾性帯体の少なくとも一方に、これらを互いに止着する止着部材が設けられていることを特徴とする使い捨ておむつ。

【請求項2】 上記弾性帯体の両端部が、上記おむつ本体の両側縁部に形成されたサイドフラップ部において、上記防漏シートに接合固定され、該弾性帯体とおむつ本体とにより輪状が形成されていることを特徴とする請求項1記載の使い捨ておむつ。

【請求項3】 上記弾性帯体は、使用時に反転されて表面シート側に位置するべき外側に撥水性の不織布状であることを特徴とする請求項1記載の使い捨ておむつ。

## 【発明の詳細な説明】

## 【0001】

【産業上の利用分野】本発明は、装着性とフィット性を改善した使い捨ておむつに関し、更に詳しくは、乳幼児用、失禁者用、大人用に供される使い捨ておむつに関する。

## 【0002】

【従来の技術】従来の使い捨ておむつは、図11に示すように、液透過性の表面シート2と液不透過性の防漏シート3とこれらのシート間に吸収体4を介在したおむつ本体5を備えており、該おむつ本体5を身体に装着する手段として、おむつ本体の背側に設けられたファスニングテープ6と該ファスニングテープ6が貼着される腹側に設けられたランディングテープ7とが設けられている。また、使い捨ておむつにおける簡易的な装着具として、ゴムバンドを使用するものや、乳幼児用使い捨ておむつにおいては、全くのパンツ型に予め成型されたものもある。

## 【0003】

【発明が解決しようとする課題】しかし、前述の従来の使い捨ておむつでは、フィット性を確保するためには、使い捨ておむつの装着状態を初期の段階と使用中の段階とで一定に保つ必要があり、確実に且つ弾性的に保持する必要がある。ところが、乳幼児の場合、特にフィット性が要求される高月齢児においては、おむつ替えの時に、着用者はじっとしていないために、確実に装着できず、不安定となる。

【0004】更に、高月齢児においては、寝かせた状態

でのおむつ替えから、立った状態でのおむつ替えが多くなり、従来のファスニングテープ6による装着では装着し難く、装着後の装着状態も不安定である。このように、使い捨ておむつ装着の初期の状態が不安定であるため、フィット性は不十分であるのに加え、高月齢児においては、更に、活動量が大きいため、使用中での装着状態の変形が起こり、更にフィット性が損なわれ、その結果、漏れの原因になるという不都合がある。

【0005】また、失禁者用の使い捨ておむつの場合、従来のファスニングテープ6による製品では、自分で立ったまま装着することは、装着者が高齢であることを考えても困難である。更に、失禁者は常に失禁状態にあるわけではなく、自発的に排尿しようとした場合には、ファスニングテープを引き剥がして使い捨ておむつを取り除く必要があるが、該操作は立位の状態では非常に面倒になるという不都合がある。ゴムバンドによる装着にあっては、使い捨ておむつにゴムバンドを付ける操作が比較的面倒であるのに加え、ゴムバンドが細いため、装着安定性に欠ける欠点がある。パンツ型の使い捨ておむつにおいては、また製造工程が複雑になり高価になるとともに、排便処理の際に脱がせ難く、更に、排便処理時におむつ自体を丸めて処理し難いという問題点がある。

【0006】従って、本発明の目的は、装着しやすく、また、使用中での装着安定性も良好でフィット性が確保でき、排便時の処理も簡単で安価な吸収性物品を提供することである。

## 【0007】

【課題を解決するための手段】本発明は液透過性の表面シートと、液不透過性の防漏シートと、これらのシート間に配置された吸収体とからなるおむつ本体を備えた使い捨ておむつにおいて、上記おむつ本体の長手方向の一端部には、上記防漏シート側に着用者のウエスト周囲を覆うべき弾性帯体が輪状に設けられており、該弾性帯体は、上記長手方向の一端部の両側部で上記防漏シートに固定され、上記弾性帯体の全体が上記防漏シート側に配置されており且つ使用時には上記表面シート側に反転されるようになされており、上記おむつ本体の他端部又は上記弾性帯体の少なくとも一方に、これらを互いに止着する止着部材が設けられていることを特徴とする使い捨ておむつを提供することにより、上記目的を達成したものである。

## 【0008】

【作用】本発明の使い捨ておむつを装着する場合には、防漏シート側に位置する弾性帯体を裏返すようにして、表面シート側に配置し、表面シート側に着用者のウエスト周囲を覆う輪状を形成する。この状態で、輪状の弾性帯体に体を通した後、おむつ本体の他端部を止着部材により弾性帯体に止着するか、または弾性帯体に着用者の体を通す前に予め、おむつ本体の他端部を止着部材にて弾性帯体16に止めて、パンツ型を形成してから、パン

ツのようにして履いてもよい。排尿時における使い捨ておむつの交換は、パンツを脱がすようにすればよい。また、排便時の交換は、寝かせた状態で止着材で止めてある部分を剥がしてお尻の部分の方に丸めてから、丸めた部分を弾性帯体で止めて廃棄処理できる。

【0009】

【実施例】以下に、本発明の実施例を詳細に説明する。図1は、本発明の実施例の使い捨ておむつの斜視図、図2は、図1のII-II線に沿って切断した断面図、図3は、図1に示す使い捨ておむつの装着方法を示す斜視図、図4は、図1に示す使い捨ておむつの廃棄処理状態を示す斜視図、図5は、図1に示す使い捨ておむつの弾性帯体の断面図、図6は、他の実施例による弾性帯体の断面図、図7は、図1に示す使い捨ておむつの弾性帯体の接合状態を示す斜視図、図8は、弾性帯体の他の接合状態を示す斜視図、図9は、弾性帯体の他の接合状態を示す斜視図、図10は、他の実施例による使い捨ておむつの斜視図である。

【0010】図1に示すように、本実施例の使い捨ておむつ10は、液透過性の表面シート11と液不透過性の防漏シート12とその間に介在された吸収体13を配置したおむつ本体14を備えている。おむつ本体14の長手方向の背側部（一端部）15には、上記防漏シート12側に着用者のウエスト周囲を覆うべき弾性帯体16が輪状に設けられており、該弾性帯体16は、上記背側部15の両側部（サイドフラップ）15a、15bで上記防漏シート12に固定されて、上記弾性帯体16の全体が上記防漏シート側に配置され、使用時には上記表面シート11側に反転されるようになされており、上記おむつ本体の腹側部（他端部）又は上記弾性帯体16の少なくとも一方に、上記おむつ本体14の腹側部と上記弾性帯体16を止着する止着部材17が設けられている。

【0011】上述のおむつ本体14は、着用時に着用者の腹側に位置する腹側部18と背側に位置する上記背側部15とが形成されており、背側部15のサイドフラップ15a、15bにおける防漏シート12に弾性帯体16が輪状を形成するように、弾性帯体16の両端部が接合固定されている。また、腹側部18には、その防漏シート側に一對の止着部材17、17が設けられており、着用時に腹側部18を弾性帯体16に剥離自在に止着するように構成されている。尚、腹側部18と背側部15との間に位置する股下部19には、弾性部材20が配置されており、吸収体13を挟んで着用時に股下ギャザーが形成されるようになっている。

【0012】弾性帯体16は、図2及び図7に示すように、背側部15の防漏シート12上面に輪状に接合されているが、弾性帯体16の両端部16a、16bにおいてその外面側が折り返されて接合固定されている。このように、両端部16a、16bが折り返されて接合固定されていることにより、図3の(a)に示すように、使

用状態において接合部分の折り返しがなくなるので、この部分に無理な力がかかりにくく、剥がれ難くなる。

【0013】弾性帯体16の幅は、着用時のフィット性を考慮し、対象者により変える必要があり一義的には決まらないが、10mm以上又は吸収性物品の縦方向全長の1/20～1/2の幅が好ましく、より好ましくは1/10～1/3の幅であり、着用時において、弾性帯体16が少なくとも吸収体上面にかかることが好ましいからである。弾性帯体16の両端部16a、16bの固定は、使用時に直接肌と触れる面と反対側を接着材、ヒートボンドや超音波等により接合されている。おむつ本体14の腹側部18には、防漏シート12の表面に止着材17が配設されているが、該止着材17は、おむつ本体14の腹側部に設置することに限らず、弾性帯体16が腹側部18の少なくともどちらか一方に設置されてい

ばよい。

【0014】次に、使い捨ておむつの各構成部材の材料等について説明する。本実施例に用いられる表面シート11は、衛生材料として通常広く用いられているものであり、ポリエチレン、ポリプロピレン、ポリエステル等を原料とする繊維やこれらの複合繊維を用いたスパンボンド方式やヒートボンド方式や水流交絡方式によりシート化されたもので、体液の吸収性を向上させるための親水化処理が、少なくとも吸収体面上に設置される部分に施されている一層あるいは複数層の不織布やポリエチレン、ポリプロピレン、ポリエステル等を原料としており、体液の吸収性を向上させるための親水化処理が少なくとも吸収体上面に設置される部分に施されている、孔の開いたフィルムであり、風合いや強度や吸収性を考慮すれば、5～50g/m<sup>2</sup>のものが用いられる。

【0015】防漏シート12は、通常使用されているポリエチレン、ポリプロピレン、ポリエステル等を原料とするフィルムやこれらのフィルムを紙や不織布等にラミネートしたものであってもよいが、着用者の快適性を考慮すれば、液不透過性であってかつ透湿性を有するフィルムを用いることが好ましい。また、対象者や用途に応じて透湿量や厚みを変えることもできる。一般的には、上記汎用樹脂に微細な無機物を混入させ、延伸や溶出によりフィルムに微細な孔を設けることが行われている。または、透湿性を有するフィルムと不織布との複合されたものであってもよい。

【0016】吸収体13は、ポリアクリル酸塩やデンプンとアクリル酸のグラフト共重合体等からなる高吸収性ポリマーを吸収の主体として、バルブや合成繊維等を含んだウェブから成り、必要とされる吸収量に合わせてその量を調整すればよい。また、吸収体13の形状は、対象者に合わせて長方形や、砂時計型を適宜選択すればよい。弾性部材20は、ポリウレタンや天然ゴムやSBR等のエラストマーを原料とした糸状や、帯状のフィルムや発泡体の弾性体をあらかじめ必要に応じた延伸状態で

設置固定することにより形成される。

【0017】弾性帯体16は、図5に示すように、ポリウレタンや天然ゴムやSBR等のエラストマーを原料とした伸縮性でかつ撥水性のフィルムや孔の開いたフィルム等のシート状物17と、防漏シートに接合された状態で少なくともその外側に撥水性の不織布18が複合されている。複合は、あらかじめ所定の延伸状態にされた前記伸縮性でかつ撥水性のシート状物が前記撥水性の不織布とが粘着材やヒートボンドや超音波等によりなされている。このように、外側を撥水性の不織布18で構成することにより、使用時には折り返されて着用者の肌に接する側が撥水性となり、装着感がよい。

【0018】また、弾性帯体16の伸縮力は、幅同様に対象者により変える必要があり一義的には決まらないが、2倍に伸張した時に100~400g/30mmが好ましく、より好ましくは200~300g/30mmである。更に、伸縮性は、1.2~3.0倍で、好ましくは1.5~2.0倍である。尚、弾性帯体16は、図示していないが、製造時の搬送を円滑に行うために、防漏シート12に接合されている端部部分16a、16bとは別に少なくとも一箇所以上で防漏シート12に仮止めされている。

【0019】止着材15は、付け外しが可能であることが好ましいが、通常衛生用品に使用されている両面粘着テープとランディングテープとの組合せでもよいし、自着性のホットメルトを用いてもよいし、ベルクロ（商標）式テープであってもよい。また、粘着力の小さくズレない程度の滑り止め、例えば、表面指触タック性が小さいホットメルトを点状や線状や面状に塗工してあってもよい。これら止着材15が弾性体に設置されるときは、十分に接着できる程度の平滑性を保った状態で設置される。

【0020】次に、本実施例の使い捨ておむつの装着方法について説明する。この使い捨ておむつの装着方法には、図3に示すように、二通りある。第1の方法は、図3の(a)~(c)に示す方法であるが、まず、(a)に示すように、弾性帯体16を裏返すようにして、おむつ本体14の背側部15の表面シート11側に輪状を形成する。その状態で、(b)に示すように、両足を輪状の弾性帯体に通して、股下から腹側部18を引き出し、(c)に示すように、腹側において弾性帯体16の内側に入れて止着部材17にて腹側部18を止めてパンツ状を形成する方法である。

【0021】第2の方法は、図3の(e)及び(f)に示す方法であるが、まず、(e)に示すように、弾性帯体16を裏返すようにして、おむつ本体14の背側部15の表面シート11側に輪状を形成した後、おむつ本体14の腹側部18を弾性帯体16の内側にいれて止着部材17にて固定し、パンツ型を形成する。

【0022】そして、(f)に示すように、パンツをは

くようにして着用する。このように本実施例の捨ておむつは、装着しやすく、また、装着中は、弾性帯体16によりおむつ本体が保持されているので、装着安定性も良好で、ウエスト部でのフィット性がよい。その結果、活動等によるずれ落ちがなく、前や後ろ漏れ及び股漏れが防止される。更に、本発明の使い捨ておむつの製造は、弾性帯体を取り付けるだけであるから、従来の設備を利用でき、経済的で比較的安価に製造が可能となり、また、弾性帯体を利用して折り畳むことにより、携帯性の良い折り方が可能となる。

【0023】排尿時の使い捨ておむつの廃棄は、パンツを脱がすようにすればよい。また、排便時の交換は、寝かせた状態で止着部材17で止めてある部分を剥がして、おむつ本体14を広げ、お尻の清拭を行い、腹側部18を排便を包むようにして背側部15へむけて丸めてから、弾性帯体16を足から脱がし、図4に示すように、丸めた部分を弾性帯体16で止めて廃棄すれば、衛生的に処理できる。更に、着用者が自発的に排泄する場合は、排便時の交換の時のように、止着部材17で止めてある部分を剥がして、用を足した後に再度弾性帯体16の下側に挿入するようにして止着材15で止めればよい。

【0024】本発明は上述した実施例に限定されず、本発明の要旨を逸脱しない範囲で種々変形可能である。例えば、弾性帯体14は、おむつ本体長手方向の一端部であれば、背側部か腹側部のどちらか一方に固定されていればよい。また、弾性帯体16は、構成断面を図6に示すように、一層構造としてもよい。この場合、伸縮性で且つ撥水性のシート不織布をそのまま使用してもよい。このような不織布状の伸縮性でかつ撥水性のシート状物は、上記エラストマーを原料としてスパンボンド法やメルトブロー法等により不織布状に形成した物や撥水性の不織布に上記エラストマーを原料とした糸状の弾性体を延伸しながら縫い込んだ、いわゆるステッチボンド法により得られる。また、撥水性の不織布の間に前記エラストマーを原料とした糸状や帯状の弾性体が延伸された状態で接合されているものであってもよい。接合の手段は、接着材やヒートボンドや超音波等によっても良いし、不織布を製造する時、繊維自らの融着性を利用して接合してもよい。

【0025】弾性帯体16を防漏シートに固定する場合、図8に示すように、弾性帯体16の両端部を折り込まないでそのまま固定するものであってもよい。更に、弾性帯体16は、必要に応じては、その一部を図9に示すように、V字状にカット21し、弾性帯体16の必要な幅を確保しつつ不必要な部分を除くことにより、さらに着用者の足まわりのフィット性を高めることができる。また、おむつ本体14の防漏性を高める手段として、該おむつ本体14に立体のレッグギャザーを設置してもよい。更に、おむつ本体14は、図10に示すよう

に、弾性帯体16が接合されている背側部15にウエストギャザー22を設ける構成であってもよい。

【0026】

【発明の効果】本発明の使い捨ておむつは、装着しやすく、また、使用中での装着安定性も良好でフィット性が確保でき、排便時の処理も簡単で安価な吸収性物品を提供することである。特に、弾性帯体によりおむつ本体を保持することによりウエスト部でのフィット性がよく、また、弾性帯体を用いることにより、活動等によるずれ落ちがなく、その結果、前や後ろ漏れ及び股漏れが防止され且つ従来のパンツ型に比べ、排便時の処理が簡単であり、衛生的である。更に、本発明の使い捨ておむつの製造は、弾性帯体を取り付けるだけであるから、従来の設備を利用でき経済的で比較的安価に製造が可能となり、また、弾性帯体を利用することにより、携帯性の良い折り方が可能となる。

【図面の簡単な説明】

【図1】図1は、本発明の実施例の使い捨ておむつの斜視図である。

【図2】図2は、図1のII-II線に沿って切断した断面図である。

【図3】図3は、図1に示す使い捨ておむつの装着方法を示す斜視図である。

【図4】図4は、図1に示す使い捨ておむつの廃棄処理\*

\*状態を示す斜視図である。

【図5】図5は、図1に示す使い捨ておむつの弾性体の断面図である。

【図6】図6は、他の実施例による弾性体の断面図である。

【図7】図7は、図1に示す使い捨ておむつの弾性帯体の接合状態を示す斜視図である。

【図8】図8は、弾性帯体の他の接合状態を示す斜視図である。

【図9】図9は、弾性帯体の他の接合状態を示す斜視図である。

【図10】図10は、他の実施例による使い捨ておむつの斜視図である。

【図11】図11は、従来の使い捨ておむつを示す斜視図である。

【符号の説明】

10 使い捨ておむつ

11 表面シート

12 防漏シート

13 吸収体

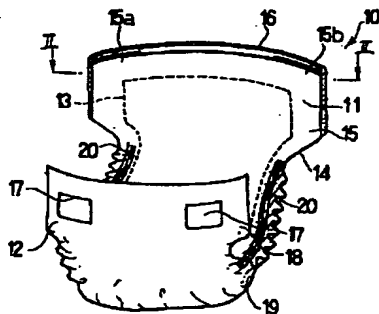
14 おむつ本体

15 背側部（一端部）

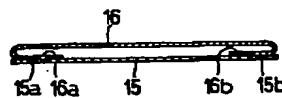
16 弾性帯体

17 止着部材

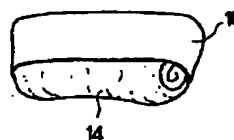
【図1】



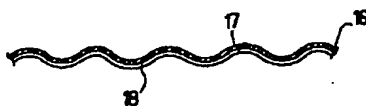
【図2】



【図4】



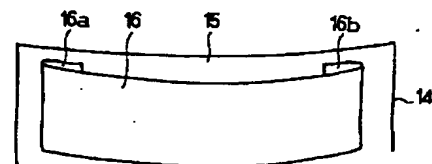
【図5】



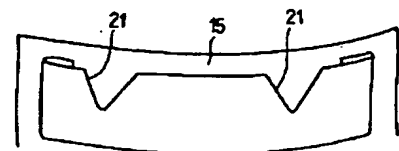
【図6】



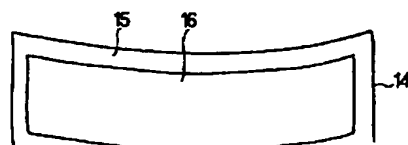
【図7】



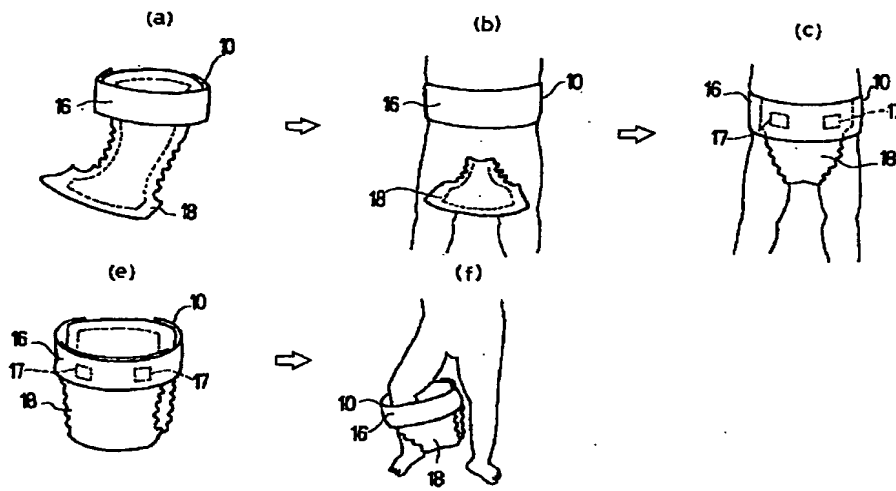
【図9】



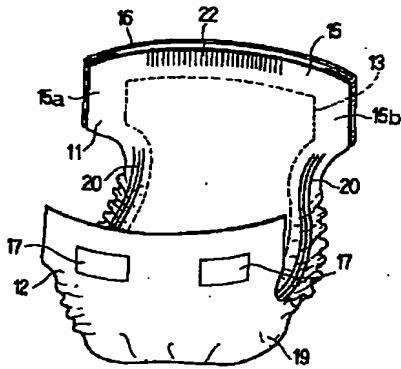
【図8】



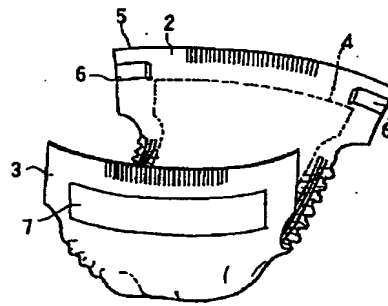
【図3】



【図10】



【図11】



# PATENT ABSTRACTS OF JAPAN

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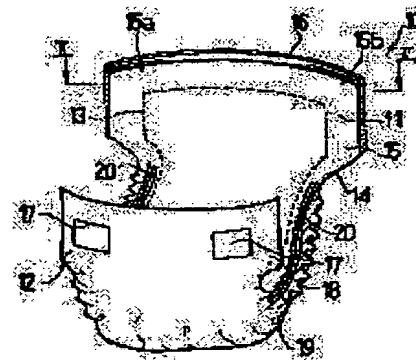
(72)Inventor : ABE KEIJI

## (54) DISPOSABLE DIAPER

### (57)Abstract:

**PURPOSE:** To provide an inexpensive absorptive article which is easily wearable, and also, satisfactory in wearing stability in the course of use, can secure its fittability, and can be disposed of simply at the time of movement.

**CONSTITUTION:** The disposal diaper 10 of this embodiment is provided with a diaper main body 14 in which a liquid permeable surface sheet 11, a liquid impermeable leakage preventive sheet 12 and an absorbent 13 interposed between them. In a back side part (one end part) in the longitudinal direction of the diaper main body 14, an elastic band body 16 for covering the periphery of the waist of a wearer is provided like a ring on the leakage preventive sheet 12 side, the elastic band body 16 is fixed to the leakage preventive sheet 12 by both side parts (flaps) of the back side part 15, and the whole of the elastic band body 16 is arranged on the leakage preventive sheet side. At the time of use, it is formed so as to be inverted to the surface sheet 11 side, and in at least one of the belly side part (the other end part) of the diaper main body, a fixing member 17 for fixing the belly side part of the diaper main body 14 and the elastic band body 16 is provided.



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**\* NOTICES \***

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3. In the drawings, any words are not translated.

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**CLAIMS**

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[Claim(s)]

[Claim 1] The surface sheet of liquid permeability The watertight sheet of liquid impermeability The main part of a diaper which consists of an absorber arranged among these sheets It is the disposable diaper equipped with the above. in the end section of the longitudinal direction of the above-mentioned main part of a diaper The elastic belt which should cover a wearer's circumference of the waist is formed in the above-mentioned watertight sheet side cyclic. this elastic belt It is made as [ be / reversed / at the time of use / it is fixed to the above-mentioned watertight sheet in the both-sides section of the end section of the above-mentioned longitudinal direction, and the above-mentioned whole elastic belt is arranged at the above-mentioned watertight sheet side, and / at the above-mentioned surface sheet side ]. It is characterized by preparing the firm attachment member which attaches these firmly to either [ at least ] the other end of the above-mentioned main part of a diaper, or the above-mentioned elastic belt mutually.

[Claim 2] The disposable diaper according to claim 1 which junction fixation of the both ends of the above-mentioned elastic belt is carried out at the above-mentioned watertight sheet in the side flap section formed in the edges-on-both-sides section of the above-mentioned main part of a diaper, and is characterized by forming cyclic with this elastic belt and the main part of a diaper.

[Claim 3] The above-mentioned elastic belt is a disposable diaper according to claim 1 characterized by the outside which is reversed at the time of use and should be located in a surface sheet side being nonwoven blanket-like [ water-repellent ].

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[Translation done.]



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**DETAILED DESCRIPTION**

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[Detailed Description of the Invention]

[0001]

[Industrial Application] this invention relates to the disposable diaper offered the object for infants, the object for incontinentia persons, and for adults in more detail about the disposable diaper which has improved wearing nature and fit nature.

[0002]

[Description of the Prior Art] The conventional disposable diaper is equipped with the main part 5 of a diaper which intervened the absorber 4 between the surface sheet 2 of liquid permeability, the watertight sheets 3 of liquid impermeability, and these sheets as shown in drawing 11, and the farce NINGU tape 6 prepared in the backside of the main part of a diaper as a means to equip the body with this main part 5 of a diaper, and the landing tape 7 prepared in the venter on which this farce NINGU tape 6 is stuck are formed. Moreover, there are also what uses an elastic band, and a thing beforehand cast by the entire trousers type in the disposable diaper for infants as a simple wearing implement in a disposable diaper.

[0003]

[Problem(s) to be Solved by the Invention] However, in order to secure fit nature, it is necessary to keep the wearing state of a disposable diaper constant and to hold it certainly and elastically in an early stage and a stage in use, in the above-mentioned conventional disposable diaper. However, in the high age-of-the-moon child of whom especially fit nature is required in the case of infants, since the wearer does not keep still, he cannot equip certainly at the time of a diaper substitute, but becomes unstable at it.

[0004] Furthermore, in a high age-of-the-moon child, the diaper substitute by the state where it stood increases from the diaper substitute by the state where it was put to sleep, it is hard to equip in wearing on the conventional farce NINGU tape 6, and the wearing state after wearing is also unstable. Thus, in addition to being inadequate, in a high age-of-the-moon child, deformation of the wearing state of a under [ use ] taking place, since the active mass is still larger, and spoiling fit nature further, consequently fit nature's having un-arranged [ of becoming the cause of leakage ], since the state in early stages of disposable diaper wearing is unstable.

[0005] Moreover, in the case of the disposable diaper for incontinentia persons, even if it considers that a wearing person is advanced age, it is difficult [ it ] to equip with the product on the conventional farce NINGU tape 6, standing personally. Furthermore, this operation having un-arranged [ of becoming very troublesome in the state of a standing position ], although it is necessary to tear off a farce NINGU tape and to remove a disposable diaper when an incontinentia person is not always in an incontinentia state and it is going to urinate spontaneously. If it is in wearing by the elastic band, in addition to the operation which attaches an elastic band to a disposable diaper being comparatively troublesome, there is a fault which lacks [ an elastic band ] in wearing stability for a narrow reason. In a trousers type disposable diaper, while a manufacturing process becomes complicated and becomes expensive, there are \*\* and a trouble of rounding off the diaper itself and being further hard to process at the time of defecation processing that it is hard to make it remove in the case of defecation processing.

[0006] Therefore, it is easy to equip with the purpose of this invention, and the wearing stability

of a under [ use ] is also good, fit nature can be secured, and the processing at the time of defecation is also offering easy and cheap absorptivity goods.

[0007]

[Means for Solving the Problem] In the disposable diaper equipped with the main part of a diaper with which this invention consists of the surface sheet of liquid permeability, a watertight sheet of liquid impermeability, and an absorber arranged among these sheets The elastic belt which should cover a wearer's circumference of the waist is formed in the above-mentioned watertight sheet side cyclic at the end section of the longitudinal direction of the above-mentioned main part of a diaper. this elastic belt It is made as [ be / reversed / at the time of use / it is fixed to the above-mentioned watertight sheet in the both-sides section of the end section of the above-mentioned longitudinal direction, and the above-mentioned whole elastic belt is arranged at the above-mentioned watertight sheet side, and / at the above-mentioned surface sheet side ]. The above-mentioned purpose is attained by offering the disposable diaper characterized by preparing the firm attachment member which attaches these firmly to either [ at least ] the other end of the above-mentioned main part of a diaper, or the above-mentioned elastic belt mutually.

[0008]

[Function] In equipping with the disposable diaper of this invention, as the elastic belt located in a watertight sheet side is turned over, it arranges to a surface sheet side, and forms wrap cyclic in a surface sheet side for a wearer's circumference of the waist. After letting the body pass to a cyclic elastic belt, before attaching the other end of the main part of a diaper firmly to an elastic belt by the firm attachment member or letting a wearer's body pass to an elastic belt, after stopping the other end of the main part of a diaper to the elastic belt 16 in a firm attachment member and forming a trousers type beforehand in this state, it may carry out like trousers and you may wear. It is made for exchange of the disposable diaper at the time of urination to make what is necessary be just to remove trousers. Moreover, after the exchange at the time of defecation removes the portion stopped by firm attachment material in the state where it was put to sleep and rounds off it to the direction of the portion of the hips, it stops the portion rounded off with an elastic belt, and can carry out abandonment processing.

[0009]

[Example] Below, the example of this invention is explained in detail. Drawing 1 the perspective diagram of the disposable diaper of the example of this invention and drawing 2 The cross section and drawing 3 which were cut along with the II-II line of drawing 1 The perspective diagram and drawing 4 which show the wearing method of the disposable diaper shown in drawing 1 The perspective diagram and drawing 5 which show the abandonment processing state of the disposable diaper shown in drawing 1 The cross section of the elastic belt of the disposable diaper shown in drawing 1 and drawing 6 The cross section of the elastic belt by other examples and drawing 7 The perspective diagram in which the perspective diagram and drawing 8 which show the junction state of the elastic belt of the disposable diaper shown in drawing 1 show other junction states of an elastic belt, and drawing 9 are the perspective diagrams of the disposable diaper by the example of others [ drawing 10 / the perspective diagram and drawing 10 / which show other junction states of an elastic belt ].

[0010] As shown in drawing 1 , the disposable diaper 10 of this example is equipped with the main part 14 of a diaper which has arranged the surface sheet 11 of liquid permeability, the watertight sheet 12 of liquid impermeability, and the absorber 13 that intervened between them. In the back (end section) 15 of the longitudinal direction of the main part 14 of a diaper The elastic belt 16 which should cover a wearer's circumference of the waist is formed in the above-mentioned watertight sheet 12 side cyclic. this elastic belt 16 It is fixed to the above-mentioned watertight sheet 12 in the both-sides sections (side flap) 15a and 15b of the above-mentioned back 15. The above-mentioned whole elastic belt 16 is arranged at the above-mentioned watertight sheet side, and it is made as [ be / reversed / at the time of use / at the above-mentioned surface sheet 11 side ]. the firm attachment which attaches firmly the venter section and the above-mentioned elastic belt 16 of the above-mentioned main part 14 of a diaper to either [ at least ] the venter section (other end) of the above-mentioned main part of a diaper,

or the above-mentioned elastic belt 16 -- the member 17 is formed

[0011] Junction fixation of the both ends of the elastic belt 16 is carried out so that the venter section 18 to which the above-mentioned main part 14 of a diaper is located in a wearer's venter at the time of wear, and the above-mentioned back 15 located in a backside may be formed and the elastic belt 16 may form cyclic in the watertight sheet 12 in the side flaps 15a and 15b of the back 15. moreover -- the venter section 18 -- the watertight sheet side -- firm attachment of a couple -- members 17 and 17 are formed, and it is constituted so that the venter section 18 may be attached firmly to the elastic belt 16 free [ ablation ] at the time of wear. In addition, the elastic member 20 is arranged at the length-from-the-crotch-to-the-cuff section 19 located between the venter section 18 and the back 15, and length-from-the-crotch-to-the-cuff gathers are formed on both sides of an absorber 13 at the time of wear.

[0012] Although it is joined to the watertight sheet 12 upper surface of the back 15 by cyclic as shown in drawing 2 and drawing 7 , in the both ends 16a and 16b of the elastic belt 16, the superficies side is turned up and junction fixation of the elastic belt 16 is carried out. Thus, since the clinch for a joint is lost in a busy condition as by turning up and carrying out junction fixation of the both ends 16a and 16b shows to (a) of drawing 3 , the force with this portion impossible for cannot be applied easily, and it is hard coming to separate.

[0013] The width of face of the elastic belt 16 is because the width of face of  $1 / 20 - 1/2$  of the lengthwise overall length of 10mm or more or absorptivity goods is desirable and it is desirable to be the width of face of  $1 / 10 - 1/3$  more preferably, and to apply the elastic belt 16 to the absorber upper surface at least at the time of wear, although it is necessary to change by the candidate and is not uniquely decided in consideration of the fit nature at the time of wear. Fixation of the both ends 16a and 16b of the elastic belt 16 is joined by a binder, heat bond, the ultrasonic wave, etc. in the direct skin, the field to touch, and the opposite side at the time of use. Although the firm attachment material 17 is arranged in the front face of a watertight sheet 12 by the venter section 18 of the main part 14 of a diaper, this firm attachment material 17 should just be installed in either, even if there is little not only installing in the venter section of the main part 14 of a diaper but elastic belt 16 or venter section 18.

[0014] next, each composition of a disposable diaper -- the material of a member etc. is explained. The surface sheet 11 used for this example is what is usually widely used as hygienic goods. It is what was sheet-ized by the span bond method and heat bond method using the fiber which uses polyethylene, polypropylene, polyester, etc. as a raw material, or these bicomponent fibers, or the stream confounding method. The nonwoven fabric and polyethylene of the monostromatic by which hydrophilicity-ized processing for raising the absorptivity of body fluid is performed to the portion installed on an absorber side at least, or two or more layers, If it is the film with which polypropylene, polyester, etc. are used as the raw material, and hydrophilicity-ized processing for raising the absorptivity of body fluid is performed to the portion installed in the absorber upper surface at least and which the hole opened and feeling, intensity, and absorptivity are taken into consideration, it will be  $5 - 50 \text{ g/m}^2$ . A thing is used.

[0015] Although it may laminate the films which use as a raw material the polyethylene usually used, polypropylene, polyester, etc., and these films in paper, a nonwoven fabric, etc., if a wearer's amenity is taken into consideration, as for a watertight sheet 12, it is desirable to use the film which is liquid impermeability and has moisture permeability. Moreover, according to a candidate or a use, the amount of moisture permeation and thickness are also changeable. Generally, a detailed inorganic substance is made to mix in the above-mentioned general-purpose resin, and preparing a detailed hole in a film according to extension or elution is performed. Or it may be compounded as the film and nonwoven fabric which have moisture permeability.

[0016] An absorber 13 consists of the web containing pulp, the synthetic fiber, etc. as a subject of absorption of the high absorptivity polymer which consists of a polyacrylate, a graft copolymer of starch and an acrylic acid, etc., and should just adjust the amount according to the absorbed dose needed. Moreover, the configuration of an absorber 13 should just choose a rectangle and a sandglass type suitably according to a candidate. An elastic member 20 is formed by carrying out installation fixation of the filamentose, the band-like film, and the elastic body of a foam which

used elastomers, such as polyurethane, natural rubber, and SBR, as the raw material in the state of extension beforehand if needed.

[0017] The elastic belt 16 is the elasticity which used elastomers, such as polyurethane, natural rubber, and SBR, as the raw material, as shown in drawing 5, and the water-repellent nonwoven fabric 18 is compounded with the outside at least in the sheet-like objects 17, such as a water-repellent film and a film which the hole opened, and the state where it was joined to the watertight sheet. Composite is the aforementioned elasticity which it changed into the predetermined extension state beforehand, and the nonwoven fabric of the aforementioned water repellence [ object / sheet-like / water-repellent ] is made according to adhesion material, heat bond, the ultrasonic wave, etc. Thus, by constituting an outside from a water-repellent nonwoven fabric 18, the side which is turned up at the time of use and touches a wearer's skin serves as water repellence, and a feeling of wearing is good.

[0018] Moreover, although it is necessary to change by the candidate like width of face and is not decided uniquely, when it elongates to double precision, the flexible force of the elastic belt 16 has desirable 100–400g / 30mm, and is 200–300g / 30mm more preferably. Furthermore, elasticity is 1.2 to 3.0 times and is 1.5 to 2.0 times preferably. In addition, although the elastic belt 16 is not illustrated, in order to perform conveyance at the time of manufacture smoothly, it is tacking carried out of it to the watertight sheet 12 by at least one or more places independently [ the edge portions 16a and 16b joined to the watertight sheet 12 ].

[0019] Although the firm attachment material 15 attaches and it is desirable for outside \*\* to be possible, the combination of the pressure sensitive adhesive double coated tape and landing tape which are usually used for sanitary goods is sufficient, the hot melt of autohesion nature may be used for it, and it may be a bell clo (trademark) formula tape. Moreover, coating of the small hot melt may be carried out to the shape of punctiform, a line, or a field, the skid, for example, surface dry tack nature, of the grade which adhesion is small and does not shift. When these firm attachment material 15 is installed in an elastic body, it is installed where the smooth nature of the grade which can fully be pasted up is maintained.

[0020] Next, the wearing method of the disposable diaper of this example is explained. As shown in drawing 3, there are two kinds in the wearing method of this disposable diaper. Although the 1st method is a method shown in (a) – (c) of drawing 3, as are shown in (a), and it turns the elastic belt 16 over, it forms cyclic in the surface sheet 11 side of the back 15 of the main part 14 of a diaper first. in the state, as shown in (b), it lets both legs pass to a cyclic elastic belt, the venter section 18 is pulled out from length from the crotch to the cuff, and it is shown in (c) — as — a venter — setting — the inside of the elastic belt 16 — putting in — firm attachment — it is the method of stopping the venter section 18 by the member 17, and forming the shape of trousers

[0021] the venter section 18 of the main part 14 of the diaper after forming cyclic in the surface sheet 11 side of the back 15 of the main part 14 of a diaper first as are shown in (e), and the elastic belt 16 is turned over, although the 2nd method is a method shown in (e) of drawing 3, and (f) — the inside of the elastic belt 16 — putting in — firm attachment — it fixes by the member 17 and a trousers type is formed

[0022] And as shown in (f), as trousers are put on, they are worn. Thus, since this example throws away, and it is easy to equip with a diaper and the main part of a diaper is held by the elastic belt 16 during wearing, wearing stability is also good and the fit nature in the waist section is good. Consequently, there is no gap omission by activity etc. and a front, back leakage, and crotch leakage are prevented. Furthermore, since manufacture of the disposable diaper of this invention only attaches an elastic belt, it becomes possible [ the portable good way of breaking ] by being able to use the conventional facility, and being economical, and manufacture becoming possible comparatively cheaply, and folding up using an elastic belt.

[0023] It is made for abandonment of the disposable diaper at the time of urination to make what is necessary be just to remove trousers. moreover, the state where the exchange at the time of defecation was put to sleep — firm attachment — the portion stopped by the member 17 is removed, the main part 14 of a diaper is opened, and the toilet of the hips is performed, and as defecation is wrapped, after rounding off the venter section 18 towards the back 15, if the

portion rounded off is stopped and discarded with the elastic belt 16 as it is made to remove the elastic belt 16 from a leg and is shown in drawing 4 , it can process sanitarly furthermore, the case where a wearer excretes spontaneously -- the time of the exchange at the time of defecation -- like -- firm attachment -- what is necessary is just to stop by the firm attachment material 15, as it inserts in the elastic belt 16 bottom again, after removing the portion stopped by the member 17 and doing its business

[0024] this invention is not limited to the example mentioned above, but can deform variously in the range which does not deviate from the summary of this invention. For example, if the elastic belt 14 is the end section of the direction of a diaper book length hand, it should just be fixed to either the back or the venter section. Moreover, in a composition cross section, the elastic belt 16 is much more good also as structure, as shown in drawing 6 . In this case, it is elasticity and a water-repellent sheet nonwoven fabric may be used as it is. It is obtained by the so-called stitch-bonding method sewn in while it is such nonwoven blanket-like elasticity and the elastic body of the filamentose which used the above-mentioned elastomer as the raw material was extended to the object which the water-repellent sheet-like object used the above-mentioned elastomer as the raw material, and was formed in nonwoven blanket-like one by the span bond method, the melt blowing method, etc., or the water-repellent nonwoven fabric. Moreover, it may be joined where the filamentose and the band-like elastic body which used the aforementioned elastomer as the raw material between water-repellent nonwoven fabrics are extended.

According to a binder, heat bond, an ultrasonic wave, etc., the means of junction is good, and when manufacturing a nonwoven fabric, you may join it using the weld nature of fiber itself.

[0025] You may fix as it is without inserting in the both ends of the elastic belt 16 as shown in drawing 8 , when it fixes the elastic belt 16 to a watertight sheet. Furthermore, it can raise the fit nature of a wearer's axle part further by removing an unnecessary portion, it making the part th shape of V character cut 21, as shown in drawing 9 , and securing the required width of fac of the elastic belt 16, if the elastic belt 16 accepts the need. Moreover, you may install solid leg gathers in this main part 14 of a diaper as a means which raises the leakproofness of the main part 14 of a diaper. Furthermore, the main part 14 of a diaper may be the composition of forming the waist gathers 22 in the back 15 to which the elastic belt 16 is joined, as shown in drawing 10 .

[0026]

[Effect of the Invention] It is easy to equip with the disposable diaper of this invention, and the wearing stability of a under [ use ] is also good, fit nature can be secured, and the processing at the time of defecation is also offering easy and cheap absorptivity goods. By holding the main part of a diaper with an elastic belt especially, when the fit nature in the waist section is good and uses an elastic belt, there is no gap omission by activity etc., consequently a front, back leakage, and crotch leakage are prevented, and it compares with the conventional trousers type, and the processing at the time of defecation is easy, and sanitary. Furthermore, since manufacture of the disposable diaper of this invention only attaches an elastic belt, it becomes possible [ the portable good way of breaking ] by being able to use the conventional facility, and being economical, and manufacture becoming possible comparatively cheaply, and using an elastic belt.

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[Translation done.]

## \* NOTICES \*

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## DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] Drawing 1 is the perspective diagram of the disposable diaper of the example of this invention.

[Drawing 2] Drawing 2 is the cross section cut along with the II-II line of drawing 1 .

[Drawing 3] Drawing 3 is the perspective diagram showing the wearing method of the disposable diaper shown in drawing 1 .

[Drawing 4] Drawing 4 is the perspective diagram showing the abandonment processing state of the disposable diaper shown in drawing 1 .

[Drawing 5] Drawing 5 is the cross section of the elastic body of the disposable diaper shown in drawing 1 .

[Drawing 6] Drawing 6 is the cross section of the elastic body by other examples.

[Drawing 7] Drawing 7 is the perspective diagram showing the junction state of the elastic belt of the disposable diaper shown in drawing 1 .

[Drawing 8] Drawing 8 is the perspective diagram showing other junction states of an elastic belt.

[Drawing 9] Drawing 9 is the perspective diagram showing other junction states of an elastic belt.

[Drawing 10] Drawing 10 is the perspective diagram of the disposable diaper by other examples.

[Drawing 11] Drawing 11 is the perspective diagram showing the conventional disposable diaper.

[Description of Notations]

10 Disposable Diaper

11 Surface Sheet

12 Watertight Sheet

13 Absorber

14 Main Part of Diaper

15 Back (End Section)

16 Elastic Belt

17 Firm Attachment — Member

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[Translation done.]

**\* NOTICES \***

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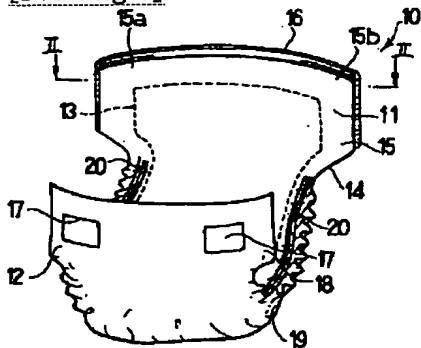
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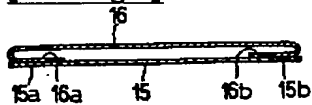
**DRAWINGS**

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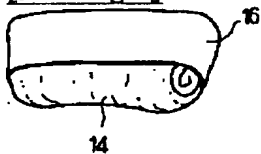
[Drawing 1]



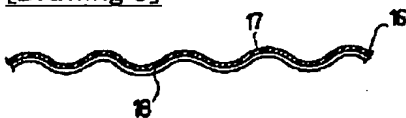
[Drawing 2]



[Drawing 4]



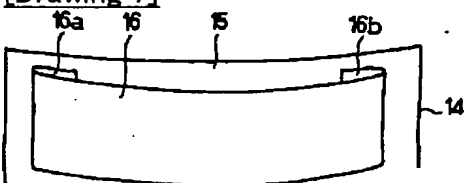
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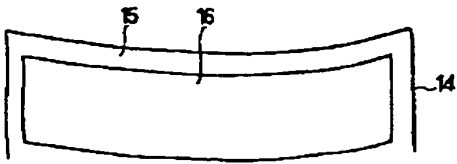
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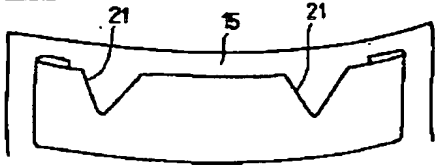
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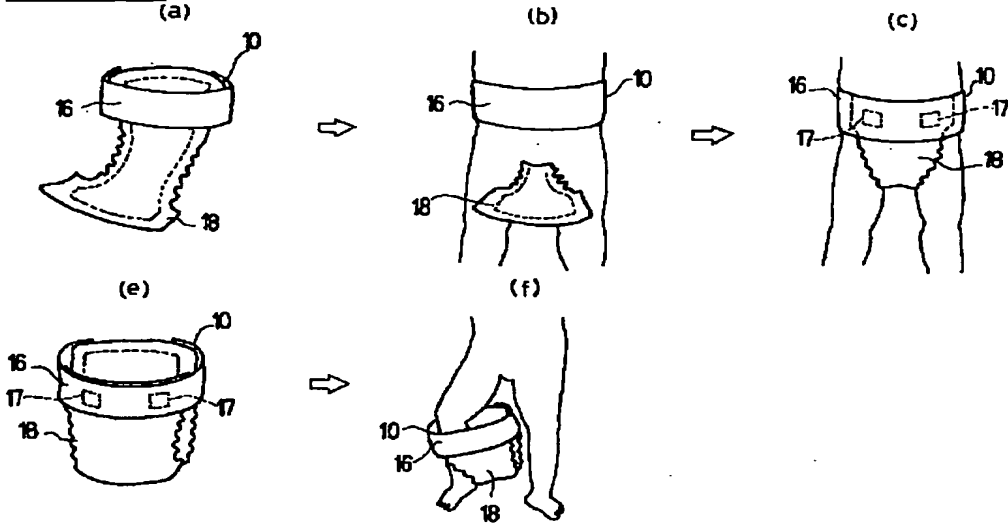
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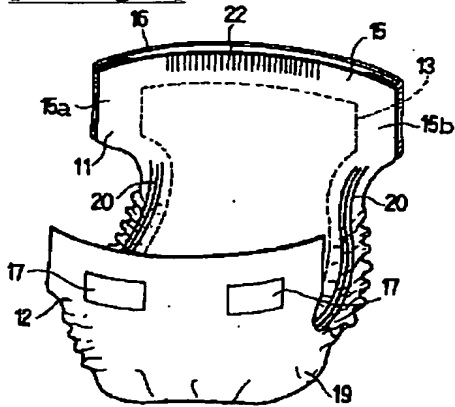
[Drawing 9]



[Drawing 3]

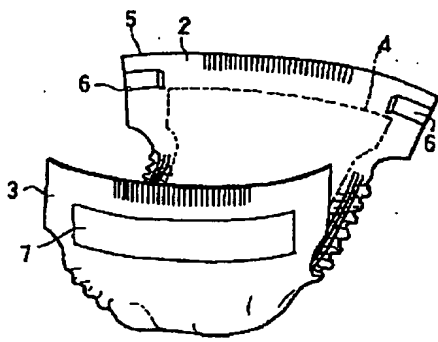


[Drawing 10]



[Drawing 11]





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[Translation done.]

